

***Amendments to the Drawings***

Attached hereto are 26 replacement sheets of formal drawings for FIGS. 1-14, 15A, 15B and 16-28, corresponding to the informal sheets of drawings originally filed with the application.

The attached sheet of drawings for FIG. 22 includes changes. FIG. 22 has been amended to simplify element 2206 as required by the Examiner. An annotated sheet showing the changes to FIG. 22 is attached.

***Remarks***

Applicant thanks the Examiner for prompt allowance of claims 1-20. Upon entry of the foregoing amendment, claims 1-20 are pending in the application, with claims 1, 10 and 16 being the independent claim.

Applicant has amended paragraphs [0070] and [0077] of the present application to correct minor typographical errors. In paragraph [0070], “know” has been changed to –known–. In paragraph [0077], “by by” has been changed to –by–.

In accordance with the Office Action, Applicant has amended claims 1, 10 and 16 to further clarify the term “ $n$ -level” by adding the phrase “wherein  $n$  is an integer greater than zero.” Support for this change is found, for example, in paragraph [0080] of the present application.

As requested by the Examiner, Applicant has amended FIG. 22 to simplify element 2206. An annotated sheet showing the changes to FIG. 22 is attached.

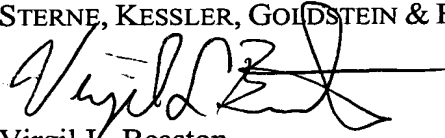
These changes do not introduce new matter, and their entry is respectfully requested.

***Conclusion***

Based on the above amendment and remarks, Applicant believes that a full and complete reply has been made to the *Ex parte Quayle* action and, as such, the present application is in condition for allowance.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Virgil L. Beaston", with a long horizontal stroke extending to the right.

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2202

SELECT A NUMBER OF INPUT VALUES TO BE PROVIDED TO A PIPELINED MULTIPLEXER LOOP DURING A CLOCK PERIOD OF OPERATION OF AN INTEGRATED CIRCUIT

2204

SELECT A NUMBER OF LOOK-AHEAD STEPS TO BE IMPLEMENTED AS A PART OF THE PIPELINED MULTIPLEXER LOOP

2206

IMPLEMENT THE PIPELINED MULTIPLEXER LOOP USING AT LEAST ONE DIGITAL LOGIC CIRCUIT, COMPRISING:

AN  $N$ -LEVEL LOOK-AHEAD NETWORK THAT CONVERTS THE NUMBER OF INPUT VALUES SELECTED IN STEP 2202 TO A PLURALITY OF INTERMEDIATE VALUES, WHEREIN  $N$  REPRESENTS THE NUMBER OF LOOK-AHEAD STEPS SELECTED IN STEP 2204,

A PLURALITY OF MULTIPLEXERS ~~EACH HAVING A FIRST AND A SECOND INPUT PORT, AN OUTPUT PORT, AND A CONTROL PORT, THE PLURALITY OF MULTIPLEXERS~~ ARRANGED TO FORM THE PIPELINED MULTIPLEXER LOOP, THE PIPELINED MULTIPLEXER LOOP HAVING AT LEAST A FIRST AND A SECOND STAGE, THE FIRST STAGE CONSISTING OF A FIRST MULTIPLEXER, AND THE SECOND STAGE CONSISTING OF A SECOND AND A THIRD MULTIPLEXER, ~~THE PIPELINED MULTIPLEXER LOOP BEING COUPLED TO THE  $N$ -LEVEL LOOK-AHEAD NETWORK~~

A FIRST COMMUNICATIONS LINK THAT COUPLES ~~THE~~ <sup>$AN$</sup>  OUTPUT PORT OF THE SECOND MULTIPLEXER TO ~~THE~~ <sup>$A$</sup>  FIRST INPUT PORT OF THE FIRST MULTIPLEXER,

A SECOND COMMUNICATIONS LINK THAT COUPLES ~~THE~~ <sup>$AN$</sup>  OUTPUT PORT OF THE THIRD MULTIPLEXER TO ~~THE~~ <sup>$A$</sup>  SECOND INPUT PORT OF THE FIRST MULTIPLEXER,

A FIRST FEEDBACK LOOP, HAVING A FIRST DELAY TIME, THAT COUPLES THE OUTPUT PORT OF THE FIRST MULTIPLEXER TO ~~THE~~ <sup>$A$</sup>  CONTROL PORT OF THE FIRST MULTIPLEXER, AND

A SECOND FEEDBACK LOOP, HAVING A SECOND DELAY TIME, THAT COUPLES THE OUTPUT PORT OF THE FIRST MULTIPLEXER TO ~~THE~~ CONTROL PORTS OF THE SECOND AND THIRD MULTIPLEXERS,

WHEREIN THE FIRST DELAY TIME IS AN INTEGER MULTIPLE OF THE SECOND DELAY TIME AND IS EQUAL TO  $(N+1)$  TIMES A CLOCK PERIOD OF OPERATION OF THE INTEGRATED CIRCUIT.

FIG.22